

WHAT IS CLAIMED IS:

1. A semiconductor laser, comprising:
  - a substrate etched into a mesa structure;
  - an active layer formed on the mesa structure and being a core of a
  - 5 waveguide;
  - a first clad layer formed on the active layer;
  - a current blocking layer formed on the etched substrate in both sides of the mesa structure;
  - an etch-stop layer formed on the first clad layer and the current
  - 10 blocking layer;
  - a second clad layer formed on the etch-stop layer being located on an upper portion of the mesa structure, with a predetermined width;
  - an ohmic contact layer formed on the second clad layer;
  - a first electrode contacted with the ohmic contact layer; and
  - 15 a second electrode formed on a bottom side of the substrate.
2. The semiconductor laser as claimed in Claim 1, wherein the current blocking layer may be formed by a first p type, an n type, and a second p type semiconductor layers,
- 20 wherein the second p type semiconductor layer is formed with a thickness thinner than that of the first p type semiconductor layer.
3. The semiconductor laser as claimed in Claim 2, wherein the second p type semiconductor layer is formed with a thickness of 0.2  $\mu\text{m}$  or less.

4. The semiconductor laser as claimed in Claim 1, wherein the second clad layer may be a p type semiconductor layer.

5            5. The semiconductor laser as claimed in Claim 1, further comprising a layer for planarization in both sides of the second clad layer and the ohmic contact layer.

6. A method for manufacturing a semiconductor laser, comprising the  
10 steps of:

forming an active layer and a first p type semiconductor layer on an n type substrate and etching exposed portions of the first p type semiconductor layer, the active layer, and the substrate by a predetermined thickness, by means of an etching process using a first mask pattern, thereby forming a mesa  
15 structure;

forming a current blocking layer by growing a second p type, an n type, and a third p type semiconductor layers in the etched portions of both sides in the mesa structure;

forming an etch-stop layer all over the structure after removing the  
20 mask pattern, and growing a fourth p type semiconductor layer and an ohmic contact layer on the etch-stop layer;

patterning exposed portions of the ohmic contact layer and the fourth p type semiconductor layer with a predetermined width, by means of an etching process using a second mask pattern;

exposing the surface of the ohmic contact layer after planarizing the whole surface of the resultant structure; and

forming an electrode to be contacted with the ohmic contact layer.

5           7. The method for manufacturing a semiconductor laser as claimed in Claim 6, wherein the third p type semiconductor layer is formed with a thickness of 0.2  $\mu\text{m}$  or less.

8. The method for manufacturing a semiconductor laser as claimed in  
10 Claim 6, wherein the first and the second mask patterns are formed with a silicon nitride film or a silicon oxide film.

9. The method for manufacturing a semiconductor laser as claimed in Claim 6, the fourth p type semiconductor layer is subjected to a selective  
15 etching process to form patterns, and the etching process is stopped at the time of the etch-stop layer being exposed.